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ABSTRACT

In 1992, Elaine McKinney and six college interns set into motion an experiment in human relations at the Forest Service's Northeast Area and Station Headquarters in Radnor, PA. The program provides basic conservation education to urban youth who may never have been exposed to the concepts of conservation, recycling, or forest management. This report represents the experiences of the 15 interns and five supervisors in the 1998 Conservation Education Outreach Program. Also, the Northeastern Area Station and the Southern Research Station Programs (in Asheville and Huntsville, Alabama) are described and evaluated. (Contains 11 references.) (CCM)

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United States
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Forest Service

Southern
Research Station

August 1998

Conservation Education Outreach Program
Accomplishment Report, 1998

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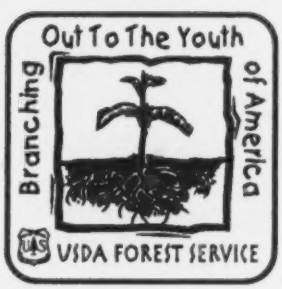

Conservation Education Outreach Program
Accomplishment Report, 1998

Compiled by: Rod Kindlund and Tihisia Boshart

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Cover Photo: Hmong Association children with Woodsy Owl in Milwaukee, WI

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This document represents the experiences of the 15 interns and 5 supervisors in the 1998 Conservation Education Outreach Program (CEO Program); it was compiled by Rod Kindlund and Tihisia Boshart.

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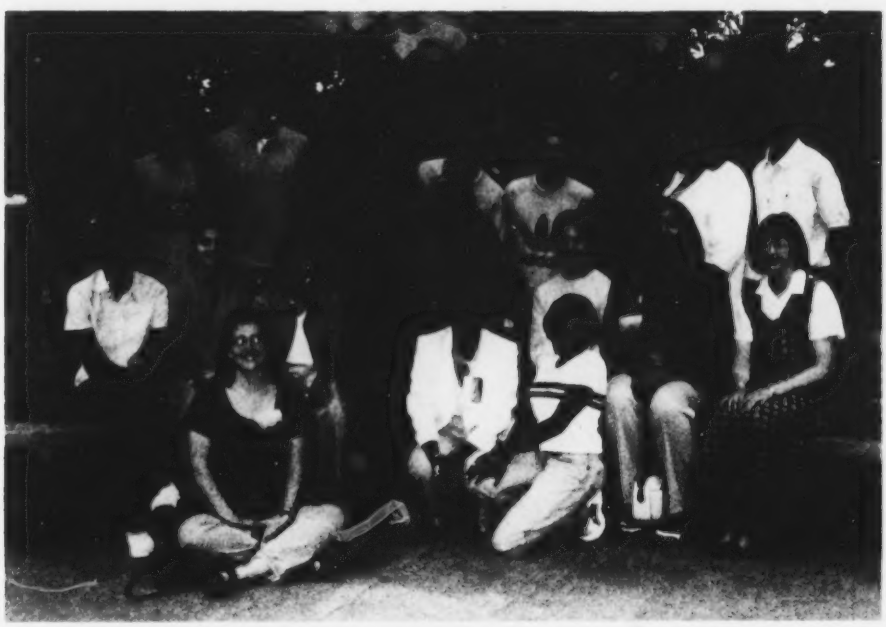


1998 Intern Teams, Supervisors, and Coordinators

INTRODUCTION

What began in 1992 as a fledgling idea at the Northeastern Area & Station Headquarters in Radnor, PA with Elaine McKinney and six college interns set into motion an experiment in human relations in the Forest Service. The goal of the program was, and still is, to provide basic conservation education to urban youth in the inner city—children who may never have been exposed to the concept of conservation or recycling or forest management. Many of these children may never have thought about trees or ecosystems or how they interact with human populations.

At each geographical center, a team of four interns provides a fun-learning experience for the children at site visits. The visits include environmental games that teach conservation concepts, usually from 20 to 35 children at a time. This year, the teams contacted over 8,000 youth in the Eastern United States.

The Southern Research Station added four interns to the usual four for this summer's program. It allowed the Southern Station to locate one team in Asheville, as usual, and the other one in Huntsville, AL at Alabama A&M with the National Initiative Program. In addition, the Asheville Team started a unique relationship with the YMI Cultural Center in downtown Asheville to provide conservation educational programming in exchange for office space. The partnership with YMI is expected to be on-going for several years.

An exciting experiment occurred in the Eastern Region this summer as the supervisor, Barb Forderhase, partnered her three college interns with two high school interns from the Vincent High School agribusiness and natural resources emphasis program. It was funded through a partnership agreement with the City of Milwaukee. This project provided the students with experience prior to enrolling in college courses this fall. The possibilities for expansion are endless. This year has seen tremendous growth in how the program has been applied at the field level. The success of this program is dependent on the field locations.

This report presents the 1998 Conservation Education Outreach Program accomplishments from the aspect of the interns and their supervisors.

Elaine McKinney
CEOP Coordinator
Northeastern Area & Station

Rod Kindlund
CEOP Coordinator
Southern Research Station

AN INTERN'S PERSPECTIVE OF THE FOREST SERVICE

Prior to my summer internship with the Forest Service, I was unaware of the contributions it makes to our environment. I thought the Forest Service was an agency that regulated game and fish. Now I am quite aware of its goal of conservation through scientific research and education.

I have long believed that an important way to save our environment is through sustainable management of natural resources. This concept is the backbone of the Forest Service. Since Gifford Pinchot, the Forest Service has supported the idea of sustainability for all forested lands. This agency is a forerunner in successful environmental conservation.

Not only does the Forest Service utilize its research of conservation and sustainability on Federal lands, but it also educates the public on how they can implement these concepts in their own dealings with our natural surroundings. Education of the people is the first step to a worldwide environmental consciousness. Programs like the Conservation Education Outreach Program are invaluable tools for instilling this mindset in the American youth. The Forest Service is truly a steward of the environment.

Tihisia Boshart

Preparing for a "predator-prey" activity

PROGRAM DESCRIPTION

Every new group of interns adds its own history to the program. The following is a specific description of the contributions of the 1998 team.

Orientation

The first week of the intern program was orientation, which was held in Asheville for the 15 interns from all four sites. Orientation focused on Forest Service rules and regulations, team building, and activity development. These ideas were presented by professional educators, Forest Service employees, and guest lecturers. The interns also received Project Learning Tree training, which is their main source of activity ideas.

Interns playing "Fire Tag" during orientation

Participating Sites

Each of the four sites had their own unique approach to educating the surrounding youth on conservation.

Asheville

The Asheville team consisted of Tihisia Boshart, Rachel Butlzer, Karla Boley, Kenyetta Lindsey, and supervisor Rod Kindlund. They focused on the Eastern portion of the Southern Research Station. The majority of their sites were in Asheville at six day camps run by the City Parks and Recreation Department, the Western North Carolina Nature Center, and the YWCA. Six hundred five children were contacted at these locations. The other sites were in surrounding states including North Carolina, South Carolina, Virginia, and Georgia. The out-of-town visits reached 700 children. One especially unique site was in Asheville at the Irene Wortham Center, which serves disabled youth. At this site the interns taught children with limited abilities about trees and helped them make leaf rubbings.

Asheville Intern Team and supervisor (l. to r.) Rod Kindlund, Karla Boley, Tihisia Boshart, Kenyetta Lindsey, and Rachel Butzler

The interns toured Southern Research Station laboratories near their presentation sites to observe current Forest Service research. These tours offered the interns ideas on possible future employment opportunities

and were a favorite and important part of their summer.

This year was the start of a unique relationship between the Forest Service and the Young Men's Institute Cultural Center in downtown Asheville. The center provided office space for the interns in exchange for the initiation of a conservation education program.

Rachel Butzler hands out doctor headbands to anxious tree doctors at Athens YMCA

Milwaukee

The Milwaukee team was originally composed of Adrienne Morrison, Robbie Thompson, Mike Moretti (who resigned after two weeks), and supervisor Barb Forderhase. Through the City of Milwaukee's Office of Employment and Youth Services, two graduating seniors, Jessica Monk and Shante Cotton, were hired from Vincent High School's agri-business natural resources emphasis program. This team visited 19 sites over 8 weeks in Milwaukee and Chicago, allowing them to reach approximately 2500 diverse urban youth over the summer. The team worked with several different minority groups including Hispanic and Hmong. At these sites the interns led activities and games focused on four different themes: What is nature? How does nature work? What do we get from nature? and What is our responsibility toward nature? At sites with four repeat visits, the interns focused on one theme per visit. Smokey Bear and Woodsy Owl were also utilized.

Milwaukee Intern Team and supervisor (l. to r.) Robbie Thompson, Mike Moretti, Adrienne Morrison, and Barb Forderhase

The team participated in Chicago Stewardship Days, a collaboration between the Chicago Park District, Illinois Department of Natural Resources, the USDI Fish and Wildlife Service, and USDA Forest Service. The Stewardship Days event provided an opportunity for urban youth to experience conservation educa-

Student taking a whiff of nature in Milwaukee

tion at four different parks in Chicago for four consecutive weeks. At each park children visited active learning stations for approximately 25 minutes each throughout the day. The Milwaukee interns participated at two parks and had their own station.

The team was based at America's Outdoors, an interagency information center in downtown Milwaukee. Partners with the Forest Service in the Center include the National Park Service and the Bureau of Land Management (BLM). The BLM supported the intern program by renting a GSA van, providing a space in the parking structure, and purchasing polo shirts for the interns to wear as an interagency uniform component which included the America's Outdoors logo. An additional partner was the City of Milwaukee which paid the salary of the two post-high school interns.

Atlanta

The Atlanta Team included Toya Booker, Staige Miller, Adrian Fraizer, Isaac Mills, and supervisor Mary E. Smith. They participated in the Atlanta Urban Conservation Education Project, which was established through partnerships with the Chattahoochee and Oconee National Forests; State and Private Forestry, R-8; Communication Services Unit, R-8; Southern Research Station; and the City of Atlanta, Department of Parks, Recreation and Cultural Affairs.

Atlanta Intern Team, supervisor, and orientation co-coordinator (l. to r.) Terry Campbell, Mary Smith, Adrian Frazier, Toya Booker, Isaac Mills, and Staige Miller

The purpose of the Atlanta Urban Conservation Education Project was to develop and implement a conservation education program for children, teachers, and camp counselors in inner-city Atlanta during the summer of 1998. This project was designed to provide community outreach to culturally diverse, inner-city youth and to enhance their educational experiences by using the Chattahoochee River watershed as an educational link between the National Forest and the City of Atlanta.

Urban residents learned how the forests and natural resources affects their quality of life, through a special course curriculum that addressed the following themes: Introducing Nature, How Nature Works, How People Influence Nature, Recreation With Nature, The Benefits of Nature, and How To Be Responsible With Nature. The goal of the summer intern program was to provide an opportunity for the Forest Service to reach out to the urban community by establishing its identity and teaching principles of conservation to inner city youth.

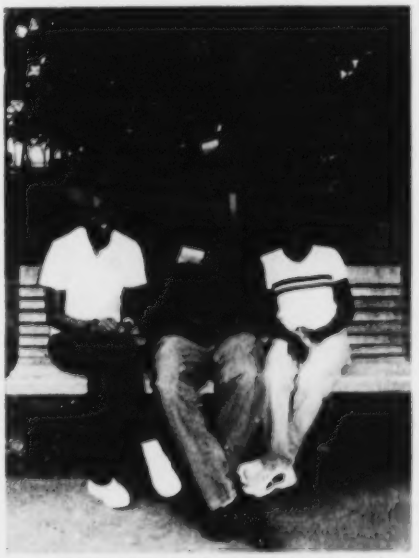
Interns demonstrating tree rings at the Zaban Recreation Center in Atlanta

The team went through a special two week orientation in Atlanta provided by the Southern Region through the Regional Office, Chattahoochee and Oconee National Forests and the City of Atlanta Department of Parks, Recreation and Cultural Affairs. They also toured the Camp Best Friends sites and met the counselors and directors with whom they would be working.

The summer ended with a presentation of certificates to each student by the interns and a visit and video presentation by Smokey Bear and Woodsy Owl.

Huntsville

This year a team was stationed in Huntsville, Alabama at Alabama A&M to cover the Western side of the Southern Research Station. The interns stationed here were Antoinette Davis, Thaddious Foster, Ja-Tanisha Mapps, and LaTrice Swain with supervisors Lonnette Edwards and Louise Wyche. The interns were participants in the National Initiative Program, which was designed to increase minority representation within the USDA Forest Service through internships such as the CEO Program. This program also brought a special message to the children: that African Americans can play a strong role in conservation fields.



Huntsville Intern Team and supervisor (l. to r.) Antoinette Davis, Lonnette Edwards, LaTrice Swain, Thaddious Foster, and Ja-Tanisha Mapps

The Huntsville team accomplished the most traveling with 2,026 miles covered in 5 states while traveling to 16 sites. This allowed them to contact over 1,000 children at community centers, religious organizations, and Boys and Girls Clubs. The team

Huntsville Team interacts with children in Nacogdoches, TX

not only performed the programs but also organized their own site visits using advice from office staff and the Internet. One unique event was a rap session about Forest Service careers with older kids in Auburn, Alabama.

These interns supplemented their experience with eight Southern Research Station tours. One memorable tour was in Auburn with Hilliard Gibbs who took the team into the field to work on watersheds.

How to Reach the Children

The goal of every intern was to find solutions to the challenge of teaching environmental conservation to a variety of youth in a short period of time. Concepts such as water and soil conservation, pollution, animal interrelationships, forest fires, trees, recycling, ecosystems, and Forest Service careers had to be presented in a way that would intrigue young people, while providing them with the information necessary to be stewards of our environment. This had to be accomplished in short time periods of 30 minutes to a few hours and often in only one visit. Not only were these factors a challenge, but unexpected events often would cause problems that required flexibility, improvisation, creativity, and a good attitude from the interns.

The teams formed many solutions to the problems. The first step was to make learning fun. This was accomplished with hands-on activities that applied the topic to the children's everyday lives. Story books and games were used, as well as allowing the children to perform by presenting their work to their peers. Another solution was to remove the audience from their indoor setting to an outdoor space that could show them examples of what they were learning. Discussions were also utilized, especially for older youth. As the summer progressed each team developed different ways to capture the attention of their audiences, while enlightening the youth on environmental conservation.

Unique Activities

The majority of the activities used by the different teams were derived from Project Learning Tree (PLT). The Atlanta team received a prearranged curriculum, listed in Appendix IV. The other teams formed their own curricula by taking activities from PLT or other sources and modifying them to fit their own ideas or developing activities with their own ingenuity. The following examples illustrate the unique or especially successful activities used this summer.

Activity 1:
"Soil Soup"

Grade Level:
K-6

This activity introduces the components of soil and its formation and function as it relates to our ecosystem. This concept is introduced by the activity "Soil Soup," which allows students to create a recipe for soil.

Materials: ❖ recipe cards ❖ bowl ❖ cups ❖water
❖ Sammy Soil Coloring Book

Background: Soil is not dirt. It is a nutrient rich material; it takes 100 years or more to form one inch deep. It is the home to many animals. Some animals, like the earthworm, actually eat it! Plants need soil for water, support, food, and nutrients. Because soil is needed by plants and animals, and takes such a long time to form, it is important to conserve it. Erosion is one of the main ways soil is lost. Erosion is greatest in areas with little or no plant cover. This happens naturally on steep slopes or due to weather. Human activity that destroys the vegetation for various reasons can further erosion damage.

Rachel Butzler (Asheville Team) meeting Sammy Soil with children at YMCA in Pulaski, VA

Procedure: Have the children brainstorm about what soil is made of (rocks, water, air, worms, nutrients, decomposed leaves and sticks...) and why it is important (anchors plants, home to some animals, provides a place to build...). Give the background. Then cook up some soil soup using the recipe of: 1 splash of water, 3 bugs, 1/2 cup air, 1-2 worms, 1 handful dead leaves, 1 cup rocks. Hold the 100 years card, and see if they realize why it does not look like soil. Then remind them that they need 100 years for one inch of soil to form, and emphasize that because of the time needed, conservation is imperative. Composting can be discussed as an alternative for quicker soil formation. Sammy Soil Coloring Book can accompany this activity.

Reference: Rachel Butzler (Asheville team)

Activity 2:
"Predator Prey"

Grade Level:
Pre K to 8

Predator Prey teaches students about the interrelationship between predators and their prey as it relates to the food chain and energy pyramid.

Materials: ❖ rope ❖ food cards ❖ energy pyramid diagram

Background: Everything on Earth affects everything else; this is called the balance of nature. The food chain shows this balance. Mice need plants and birds need mice and cats need birds and so on. Without part of this chain, some animals will not be able to get what they need. With an energy pyramid, we can see how the food chain works (show pyramid). The producers are the plants because they can make their food from sunlight. Consumers are the animals who eat plants; these are called herbivores. The next level of consumers eat the herbivores, and they are called carnivores. Energy passes from the sun through plants, all the way up to the carnivores.

Tihisia Boshart (Asheville Team) creating an energy pyramid with children in Franklin, NC

Procedure: Introduce by asking: What is a carnivore, herbivore, omnivore?—What is a food chain, energy pyramid? Show energy pyramid and do background. Have kids form own pyramid—six plants, three rabbits, and one fox. Play the game—Start with a few foxes and the rest rabbits. The rabbits wait behind the line for the foxes to tell them to go. The rabbits try to get to the other side three times without being tagged by a fox. The foxes try to tag three rabbits. After all the rabbits are either out or have three pieces of food, have kids tell you what happened. Change the environment by moving in the boundaries (less habitat), having too many foxes or rabbits, etc. After each game explain why the change would happen in nature and how it's good or bad.

Reference: Mark Latz (UNC-Asheville, orientation)

Activity 3:
"Sidewalk Crack Art"

Grade Level:
K to 4

Crack Art enables the children to see how much can actually exist in the cracks of the sidewalk, and encourages them to appreciate something they may not even usually notice.

Materials:
- ❖ sidewalk chalk/paper and art supplies
- ❖ good cracks

Children in Asheville, NC discovering the ecosystem of sidewalk cracks

Procedure: Put kids in groups of four. Give each group a piece of paper and crayons, colored pencils, or chalk. Tell them to draw the habitat they find in the crack. Discuss the habitats found and why the things found in the cracks exist.

Reference: Mark Latz (UNC-Asheville, orientation)

Activity 4:
"Recycle Relay"

Grade Level:
K to 8

Recycle Relay introduces recycling through a game that teaches what it is and how it helps the environment.

Materials:
- ❖ barrel
- ❖ landfill facts
- ❖ trash
- ❖ 4 recycling bins/bags

Background: Recycling is taking previously used products, such as plastic, glass, paper products, and aluminum, and reusing them as raw materials to make other products. More and more people are involved in reusing and recycling material, previously referred to as "trash." In fact, this "trash" is composed of valuable raw materials. Everything we throw away needs a place to go. Solid wastes that do not contain hazardous materials can be moved to landfills or burned. Many items can be recycled and food scraps and yard clippings can be composted. Composting is taking food scraps and turning it into soil-like material that can be used in yards and gardens. About 80% of our solid waste ends up in a landfill. The United States currently recycles about 17% of its solid waste. Your community may have recycling or composting programs. This activity will teach you how and why we throw things away. You will also learn ways to cut down on the waste we produce.

Procedure: Brainstorm about: What is recycling?—How does recycling help the environment?, and What things can be recycled? Show trash barrel filled with trash, both nonrecyclable and recyclable. Break kids up into teams, each one with a recycle bag. Then, one child from each team runs to the barrel, picks out what he or she thinks can be

recycled, and takes it back to the bag. This continues until everyone gets 4 chances, or until everything recyclable is out of the barrel. At the end, count how much is actually recyclable and the group with the most correct, wins. Then, explain which items cannot be recycled and the alternatives to putting them in a landfill. Composting can be mentioned, along with reducing and reusing, not just recycling.

Reference: Tihisia Boshart (Asheville team)

Activity 5:
"Don't Drink the Water"

This activity allows the children to see how nature and human activity contribute to water pollution, if and how pollution can be reduced or even prevented, and why it is important to conserve water.

Grade Level:
all

Materials: ❖ clear gallon jar ❖ spoon ❖ small containers

The "undrinkable"

Background: Many factors contribute to water pollution. These factors can be natural or as a result of human activity. Any uncleanliness or water impurity can be called water pollution. Sometimes water pollution is clearly visible, like sediment, chemicals, petroleum, or sewage. Other times, it is completely invisible to the eye, such as toxic discharges or pesticides. Whether the pollution can be seen or not, it still has harmful effects on nature.

Procedure: Start by asking the children: What is pollution?; then share the background with them. The activity starts with a clear container filled with clean water, which represents a stream. Add the contents of each container, one at a time. After every one or two additions, ask: Where did the pollution come from?—What can be done to stop or decrease it?—and Would you be comfortable drinking or swimming in the water?

IN EACH CONTAINER:	WHAT IT REPRESENTS:
leaves	natural occurrence
soil	runoff from farms, incorrect plowing, deforestation, and heavy rains
vegetable oil	motor oil from roads, oil spills
syrup	food waste
baking soda and vinegar	toxic factory dumping
green food dye	1/10th is from fertilizer, herbicides, pesticides from farms and the rest is from yards
match	thermal pollution from volcanoes or factories
salt	road runoff
garbage	litter
yellow food dye	sewage leaks and farm yard waste
toy animals	disease carriers, giardia

Reference: Rachel Butzler (Asheville team)

Activity 6:
"Bubble Mania"

Grade Level:
6 to 8

This activity teaches students about the elevated greenhouse effect.

Materials: ❖ lots of bubble soap ❖ lots of bubble wands

Background: The greenhouse effect is the atmosphere's ability to hold in energy from the sun. The energy is trapped by gases called greenhouse gases. These gases are carbon dioxide, methane, ozone, nitrous oxide, chlorofluorocarbons (CFCs), and water vapor. Without the atmosphere's ability to do this, the Earth would be very cold. People are adding greenhouse gases to the atmosphere by burning fossil fuels, which are coal, oil, gasoline, and natural gas, to run automobiles or for heat. Also, factories, and some aerosol cans produce CFC's. Even cows add methane! As we add more gases, more heat is held by them in the atmosphere. This causes global warming, which is the rising of the average temperature over the Earth. Global warming can cause rising ocean levels, climate changes, strange weather patterns, and violent storms. There are some things we can do to slow down, and perhaps stop global warming: planting trees, increasing the efficiency of cars, reducing the amount we use vehicles, and helping factories to find ways to produce less CFC's.

Girls at Camp Golden Valley in Bostic, NC producing 'greenhouse gases'

Procedure: Ask the students: What is the greenhouse effect? and read the background. Then, do the following activity, which can easily be

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changed for different sized groups. The amount of bubbles being blown represents the amount of greenhouse gases in the atmosphere at a point in history. To represent the time before civilization, have a few children blow bubbles. Explain that these gases are from bacteria, cows (all animals who chew their cud), people, animals, and volcanoes. Then, for the period after civilization, but before vehicles, add a few bubble-blowers to symbolize more cows and people and the decreasing number of trees. For the period after industrialization, but before today, add even more bubble-blowers, because of a great increase in factories, cars, cows, and a decline of the worldwide tree population. Then, add the rest of the bubble-blowers to represent the situation today.

Emphasize that greenhouse gases are not bad; we need the greenhouse effect. The problem in the current situation is the accelerated greenhouse effect. Then discuss how this can be slowed down: car pool, public transportation, support companies who use alternate energy sources, no more aerosol cans, etc.

Reference: Tihisia Boshart (Asheville Team)

WASHINGTON OFFICE PRESENTATION

The week of July 13th was used to prepare and present a program to Chief Mike Dombeck and his staff about the progress of the 1998 CEO Program. One intern from each area, Tihisia Boshart from Asheville, Adrienne Morrison from Milwaukee, Issac Mills from Atlanta, and Antoinette Davis from Huntsville, and supervisor Rod Kindlund collaborated in Washington two days prior to the scheduled meeting. During this time they organized their presentation and performed a dry run at the WO for Pam Godsey, program coordinator for NRCE. They also created a display board to show the summer's activities.

Each representative presented their specific program with a short slide show and a description. Tihisia and Adrienne then performed a mock activity called "Don't Drink the Water" in which the Chief and several other staff participated. This activity demonstrated water pollution, its effects on the environment, and ways to stop it. The presentation was meant to show the Chief and his staff the value of the program to the Forest Service Natural Resource Agenda.

Isaac Mills, Tihisia Boshart, Chief Mike Dombeck, Antoinette Davis, Adrienne Morrison, and Rod Kindlund during the Chief and Staff presentation

RECOMMENDATIONS

The success of an ongoing program is constant change for the better. The following is a list of recommendations for the program by this year's interns and supervisors.

Ideas for Improvement:

- expand recruitment to more colleges and universities nationally
- ask more essential questions during applicant interviews: i.e. what do you do to enjoy nature; what are your thoughts on _____ _____ (recent major environmental topic); situations that involve working with children
- work closely with local civic groups in a long term program
- reach out to all minority groups
- increase involvement from other America's Outdoors partners
- add a team to the Midewin National Tallgrass Prairie in Chicago in the next year or two
- expand the Milwaukee program into Chicago's urban environment
- create permanent outdoor settings such as a "Woodsy Day Camp" for children interested in conservation
- create a "Conservation Academy"—a one- or two-week program at present sites
- continue using high school students paid by the City of Milwaukee. Four college students plus two high school students would allow Milwaukee to reach more children by forming two teams of three. This amount of interns would require the City to get additional grant money.
- include high school interns at every area location
- develop an Urban Treehouse site in Milwaukee and Asheville; use it as the main site for the intern program; it would require looking into busing children to the site from day camps
- explore the possibility of establishing Stewardship Days in other cities where the program operates between the Forest Service and the city parks and recreation departments
- hire a school teacher to work with the interns the first two weeks to aid in developing lesson plans and to provide feedback on programs

- have coordinators and supervisors set up themes and curricula with educators prior to the interns' arrival
- encourage sites to incorporate interns into an already established conservation/nature program
- limit travel of teams to smaller geographical areas to do more teaching and less traveling
- return to good sites; replace the less-successful sites with new ones
- perform as many repeat visits as possible
- improve training/orientation at individual sites
- create partnerships to support the CEO Program
- create a pamphlet discussing time sheets and basic rules regarding travel
- issue a credit card for expenses such as materials and vehicle repairs to each team
- issue cellular phones to traveling teams

LOOKING TOWARD THE FUTURE

Where will the program go from here? With continued leadership and cooperating partners, it is hoped that the Eastern Region will support two intern teams in FY'99. The Southern Research Station plans to add a third team in FY'99 through a proposal to have four high school interns in Asheville teamed with the college interns, through a cooperative agreement with the Buncombe County Board of Education and the City Of Asheville. The Southern Region is concentrating on the urban forest area around the Chattahoochee and Oconee National Forests in Gainesville and urban Atlanta. The Northeastern Area & Station was not involved in the program for FY'98, but hopefully will be at full strength in 1999.

The Conservation Education Outreach Program generally has not gone beyond a two-month conservation education program to expose children to environmental concepts. The program should provide leadership to other Research Stations and National Forests to expand interaction with local school districts and civic organizations to enhance conservation education during the entire year.

The purpose of the CEO Program is to help our children become aware of their natural surroundings and the concepts of stewardship of the land on which they live and recreate. How do we measure success of the CEO Program? A thorough assessment of conservation education within the Forest Service should be conducted. It should include the CEO Program, as well as other conservation education endeavors. As future stewards and shareholders of the nation's wildlands, it is imperative our children learn their lessons well. How does the agency know the children are learning these lessons? Investing in the assessment process for conservation education programs such as the CEO Program, will enable the Forest Service to continue improving its leadership role in this vital effort.

APPENDICES

Appendix I: Site Contact Sheet

ENVIRONMENTAL EDUCATION OUTREACH PROGRAM
SITE CONTACT SHEET

USDA Forest Service • Southern Research Station • P.O. Box 2680 • Asheville, NC 28802
Attention: Rod Kindlund • (828) 259-0560 • FAX 257-4840

Site Name: _____ Address: _____

Contact Person: _____

Phone No.: _____ Best Time to Call: _____

Program Date: _____ Program Time: _____

Program Length: _____ No. of Participants (Max. 40): _____

Ethnic Make-Up: _____ Ages (7 to 14 preferred): _____

Focus of activities at your site (examples: summer school, summer daycare, bible school, playground program for drop-ins, etc.):

What is the level of students' environmental awareness?

Ratio of teachers/counselors to children:

Approximate area outside: _____ Area for Nature Trail? _____

Grassy area onsite? _____ Trees? _____

Local nature centers/parks nearby?

Approximate area inside: _____ No. of rooms: _____ A/C? _____

Site equipment availability (specify numbers): TVs: _____ Drawing materials: _____

VCRs: _____ Work tables: _____

Do the interns have permission to photograph or tape the program?

Is there an area where interns can plant or bore a tree?

Is there a history of Forest Service contact at this site?

Comments:

(Please send a map or written directions for locating your site when returning this site contact sheet)

I understand that the Forest Service cannot be responsible for the behavior or welfare of the children during the program. As site director, I guarantee that teachers/counselors will be present during the program both to participate and to maintain discipline.

_____
(signature)

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Appendix II: Site Evaluation

ENVIRONMENTAL EDUCATION OUTREACH PROGRAM
SITE EVALUATION

USDA Forest Service • Southern Research Station • P.O. Box 2680 • Asheville, NC 28802
Attention: Rod Kindlund • (828) 259-0560 • FAX 257-4840

Site Name: _____ Evaluator's Name/Title: _____ (Optional)

Please answer the following questions regarding the environmental education program presented at your youth facility this summer. By completing this evaluation, we will be able to improve the quality of the presentation and the materials presented. Please be specific and candid with your answers; the valuable information you provide will be used to shape future environmental education programs. Thank you for the time it has taken to respond.

Program Content	YES	NO
1. Was sufficient information sent to you about the Environmental Education Outreach Program prior to the Interns' presentation?	☐	☐
2. Did teachers provide discussion with your youth about the environment, natural resources, recycling, or Forest Service careers prior to the Interns' presentation?	☐	☐
3. Did your summer program have a theme? (If NO, go to question #5)	☐	☐
4. What was your summer program's theme? _____		
5. Was there more discussion with your youth after the Interns' visit?	☐	☐
6. Were the Interns' activities at an appropriate level for your childrens' age group(s)?	☐	☐
7. Do you think this program should be presented next year?	☐	☐
8. Are you interested in participating in next year's program?	☐	☐

Presentation Technique		
1. Did the interns seem well-prepared as a team?	☐	☐
2. Were the interns able to be heard during the presentation(s)?	☐	☐
3. Was the information presented clearly and concisely for the age group?	☐	☐
4. Was there enough information presented?	☐	☐
5. Should the interns shorten or lengthen the presentations? (which?) _____	☐	☐
6. Is there anything that should be included that was not? (If YES, list topics on reverse side)	☐	☐
7. Is there anything that should be excluded? (If YES, list topics on reverse side)	☐	☐
8. Were there activities that were especially strong? (If YES, describe on reverse side)	☐	☐
9. Were displays and visual aids used effectively?	☐	☐

Please include any additional comments about the summer Environmental Education Outreach Program below:

_____

_____

_____

_____

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Appendix III: Interns' Site Data Sheet

ENVIRONMENTAL EDUCATION OUTREACH PROGRAM
INTERNS' SITE DATA SHEET

USDA Forest Service • Southern Research Station • P.O. Box 2680 • Asheville, NC 28802
Attention: Rod Kindlund • (828) 259-0560 • FAX 257-4840

Site Name: _____ Date of Presentation: _____

This site data sheet is designed for the interns to list particular attributes of the Environmental Education Outreach Program sites visited during the summer. This sheet will be used for final summer program evaluations by the supervisor. The Forest Service Environmental Education Outreach Program appreciates your candid comments to further the quality of environmental education presentations in this program.

Environment:

	YES	NO
1. Was the indoor environment conducive to presenting the program, i.e. lighting, uncluttered, air conditioned?	☐	☐
2. Was the audio-visual equipment adequate for presenting the program?	☐	☐
3. Were the teachers and counselors ready for your arrival?	☐	☐
4. Was there an adequate outdoor classroom site/nature trail/grassy area on the premises?	☐	☐
5. Was there a nearby nature center or park, if an on-site outdoor classroom was not available?	☐	☐
6. Was the ratio of teachers/counselors to children adequate for quality presentation?	☐	☐
7. Do you recommend returning to this site next year?	☐	☐

Program Data:

1. Beginning time of program: _____ 2. Ending time of program: _____
3. Actual number of participants: _____ 4. Actual age(s) of participants: _____
5. List the general characteristics of the audience: _____
6. List any notable comments from the audience: _____
7. Describe the participant enthusiasm, body language, and overall mood of the audience: _____
8. Overall comments by the Intern Team regarding this site: _____

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Appendix IV: Atlanta Curriculum

General Schedule

CAMP	DAY	TIME	DATES
Anderson	Mon.	10-12:00	6/12, 22, 29, 7/6, 13, 20, 27
Carver	Tue.	10-12:00	6/16, 23, 30, 7/7, 14, 21, 28
Perkerson	Wed.	10-12:00	6/17, 24, 7/1, 8, 15, 22, 29
Thomasville	Thur.	10-12:00	6/18, 25, 7/2, 9, 16, 23, 30
Zaban	Fri.	10-12:00	6/19, 26, 7/3, 10, 17, 24, 31
Urban Treehouse Tue. PM 2-4:00			(On specific dates)

Themes/Lesson Plans

Theme: Introducing Nature (Dates: 6/15/98 -6/19/98)

An introduction of the USDA Forest Service Summer Urban Conservation Education Program will be presented by the interns. The theme, Introducing Nature, will introduce nature, components of nature, and the concept of natural systems (forests, soils, wildlife, aquatic, etc.) along the urban to rural landscape transition.

Objectives: 1) Students will be able to list natural features in the community, such as trees, soils, wildlife, water, and other vegetation; 2) compare the differences of these features within Atlanta, to a rural area or their backyard; 3) demonstrate an understanding that nature exists everywhere and in different forms; and 4) express their feelings about nature.

Schedule:

	Station 1		Station 2	
TIME	Shape of Things	Birds & Worms	Peppermint Beetle	Neighborhood Hunt
10:00-10:45	(Introduction of Program)			
10:50-11:45	Group A	Group B	Group C	Group D
11:50-12:00	(Evaluation)			

Projects:

- Station 1: Shapes of Things

This activity introduces nature through a game that teaches students to observe familiar shapes such as triangles, squares, rectangles and ovals from the built environment and then finding these shapes in the natural environment. Students compare similarities and differences. For enrichment, the Fibonacci poster is presented showing how different shapes are organized in specific patterns or sequences of Fibonacci numbers.

Materials: Construction paper, string, drawing paper, crayons or markers, slips of paper (about 3" by 3") and clipboards (or cardboard and paper clips).

Reference: *Project Learning Tree* (Activity #1)

• Station 1: Birds & Worms

This activity introduces the natural feature of wildlife camouflage—blending in with natural habitat; it offers the opportunity for discussions on what happens to wildlife when they are moved to a different habitat or their natural habitat is replaced by exotic vegetation or structures.

Materials: 60 small objects in assorted colors (e.g., colored pieces of yarn, paper clips, paper shapes, or punched holes) to represent the "worms" or "bugs" (for outdoor use, recommendations are for biodegradable items such as colored pasta, beans, popcorn, or dog treats); a large piece of butcher or white poster paper, crayons or markers; paper, pencils or pens, and pictures of camouflaged animals.

Reference: *Project Learning Tree* (Activity #25)

• Station 2: Peppermint Beetle

This activity introduces the concept of scent as a means of communication, identification, marking territory, etc., in the animal kingdom and plant world. Students will gain an understanding that these systems of survival ocur in the natural world and their own backyard. An enrichment demonstration on how the sense of smell is important to humans uses a mixture of sugar and cinnamon in a small cup. Students can hold their noses and put a pinch of the sugar/cinnamon mixture on their tongues and then identify the taste. Students will release their noses and breathe out and identify the smell. Another enrichment exercise is to draw a shape or line on a piece of paper with a BIC™ pen, (other types of inks will not work). Collect ants from the park and place them on the paper and watch how the ants hurry to the ink path and travel. The BIC pen mimics the natural scent ants utilize to communicate transportation routes.

Materials: Small bottle of concentrated flavoring (peppermint, cinnamon, wintergreen, etc.) ; cotton balls, a ball of yarn; flagging materials or rags to mark boundaries, several small jars with lids; cotton balls; and several organic liquid or substances with strong, distinctive smells. Note: Nail polish remover, white-out, and rubber cement are harmful to inhale.

Reference: *Project Learning Tree* (Activity #3)

• Station 2: A Neighborhood Hunt

Students will hunt outdoors for natural and human-made features that match various adjectives and then write descriptive paragraphs incorporating their reactions to the environment.

Materials: Adjective cards (provided).

Reference: *A Neighborhood Hunt* (Pages 3-6)

Theme: How Nature Works (Dates: 6/22/98 - 6/26/98)

Present an introduction on how natural systems work, including relationships, processes, and cycles. Examples can include the relationship between soils and trees, trees and water, trees and wildlife, water cycles, and nutrient cycles.

Objectives: 1) Students will be able to draw a picture of nature reflecting various components and how they are related; 2) describe basic steps to nutrient and water cycles; 3) identify themselves as part of these natural systems and cycles; and 4) reflect on their role in these cycles.

Schedule:

	Station 1		Station 2	
Time	Oh Deer!	Water Wonders	Every Tree for Itself	Web of Life
10:00-10:10		(Mind-mapping)		
10:15-10:55	Group A	Group B	Group C	Group D
11:00-11:45	Group C	Group D	Group A	Group B
11:50-12:00		(Evaluation)		

Projects:

• Station 1: Oh Deer!

This activity introduces the concept of habitat components: food, water, shelter, space and their change through natural processes. Through this interactive game, students will see how habitat relationships and populations are interconnected.

Materials: Space—either indoors or outdoors, large enough for students to run; chalkboard or flip chart; writing materials.

Reference: *Project Wild Activity Guide* (Page 146-149)

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• Station 1: Water Wonders

This activity introduces the water cycle and explores the ways water is cycled through all systems.

Materials: Part A: seven envelopes, label for each of the seven stations, and a watch or stopwatch. Part B: two long planter boxes filled with soil, several small plants, bricks or scrap wood (optional), and a watering can with spray head or coffee can with nail holes poked in the bottom.

Reference: *Project Learning Tree* (Activity #44)

• Station 2: Every Tree for Itself

This activity explores the concept of survival in the forest. Students will learn how a tree grows, what it needs to survive, how to find the age of a tree, and to read the history of a tree through the growth rings.

Materials: 8" x 10" (20 cm x 25 cm) pieces of paper or paper plates, pieces of blue, yellow and green paper; markers or crayons; (optional: tree trunk or branch cross-sections showing annual growth rings, often available from tree-trimming services or forest industries); and three colors of poker chips.

References: *Project Learning Tree* (Activity #27)

• Station 2: Web of Life

This activity relates to how all things are connected through construction of a web of yarn with students representing different components of the environment.

Materials: Enough large sheets of cardboard from boxes (or heavy paper) to construct a mural 4' x 8' (1.2m x 2.4m), tape, glue, pins, a ball of string or yarn, resource materials about forest plants and animals, and folders (optional).

Reference: *Project Learning Tree* (Activity #45)

Theme: How People Influence Nature
(Dates: 6/29/98 - 7/2/98, 7/2/98 - Thursday Morning Only)

This unit will build an understanding of how people influence nature by management (forestry, farming, recreation, population, growth, building cities, etc.).

Objectives: 1) Students will be able to evaluate activities of people that can change nature; 2) distinguish how these activities might interrupt and compliment the systems and cycles; 3) construct solutions; and 4) judge the value of management activities to compliment natural systems.

Schedule:
(Two interns/Two locations simultaneously)

	Station 1		Station 2	
Time	Water Pollution	Waste Watchers	Living With Fire	Garbage Pizza/Landfill
10:00-10:10		(Mind-mapping)		
10:15-10:55	Group A	Group B	Group C	Group D
11:00-11:45	Group C	Group D	Group A	Group B
11:50-12:00		(Evaluation)		

Projects:

• Station 1: Water Pollution: It Begins With You. How Water Pollution Occurs and Preventing Water Pollution

This activity introduces the concept of watershed and how people affect the quality of water through a hands-on display. Students identify pollution and construct solutions through the concept of "Best Management Practices."

Materials: EnviroScape Display

Reference: *EnviroScape*

• Station 1: Waste Watchers (Air Pollution)

Students learn the benefits and harmful effects of fire. They learn about the fire triangle and how people manage fire to prevent destruction and maximize the benefits of fire.

Materials: Thermometers, art supplies, calculators (optional), and copies of student pages 278 and 279 in the *PLT Activity Guide*.

Reference: *Project Learning Tree* (Activity #73)

• Station 2: Living With Fire

Students learn the benefits and harmful effects of fire. They learn about the fire triangle and how people manage fire to prevent destruction and maximize the benefits of fire.

Materials: Copies of "Fire Triangle Worksheet" on student page 315 of *Project Learning Tree Activity Guide*, art materials, glass jar with metal lid, wooden kitchen matches, small birthday candle, paper match, and a corn or potato chip.

Variation: 20 strands of yarn and pieces of blue poster board or construction paper to make necklaces, and pieces of red and green construction paper to make headbands.

Enrichment: five metal buckets (or large coffee cans); five 1-gallon containers (such as milk jugs) filled with water; assortment of different-sized fuels (pine needles, leaves, cones, etc., some dry and some green); and 3 matches.

Reference: *Project Learning Tree* (Activity #81)

• Station 2: Garbage Pizza/Build A Landfill

Students learn about the amount of garbage people produce each day. The first group of students will construct a "pizza pie chart" showing the components of a landfill in proportion to the amount found in landfills. The second group of students will build a miniature landfill using a transparent container and squirting it with water showing how water moves through a landfill collecting toxins and how the leachate can get into the underground water.

Materials: Mixing bowl, spoon, rolling pin, pizza pan, 2 c. flour, 2 c. salt, 3/4 c. water, oil or shortening, school glue, red food coloring, small paint brush, and waste items from these categories: paper, yard waste, metals, glass, food waste, plastics, and other waste (e.g., rubber, leather, textiles, misc. inorganic waste).

Reference: *Garbage Pizza* (Pages 49-50)

Theme: Recreation with Nature (Dates: 7/6/98 - 7/10/98)

This module will encourage recognizing and participating in outdoor recreation opportunities.

Objectives: 1) Students will be able to identify the values of nature based outdoor recreation; 2) distinguish between active and passive forms of outdoor recreation; 3) draw examples of outdoor recreation in their community or at their school; and 4) express their feelings after participating in an outdoor recreation activity and how that activity was of value to them.

Schedule:

	Station 1		Station 2	
Time	Twenty Questions	Impact Monster	Wilderness Observation	Invent A Game
10:00-10:10	(Mind-mapping)			
10:15-10:55	Group A	Group B	Group C	Group D
11:00-11:45	Group C	Group D	Group A	Group B
11:50-12:00	(Evaluation)			

Projects:

• Station 1: Twenty Questions

This activity identifies the importance of recreation values to students and helps them express their feelings about various types of recreation.

Materials: Pencil, paper, and blackboard.

Reference: *Values Clarification: A Handbook of Practical Strategies for Teachers and Students*

• Station 1: Impact Monster

This activity demonstrates how people interact positively and negatively with nature while camping, hiking, picnicking or just visiting a park, forest, or natural area. Students will demonstrate good behavior and how to minimize recreational impacts on nature.

Reference: *Values Clarification: A Handbook of Practical Strategies for Teachers and Students*

• Station 2: Wilderness observation

Students will learn the definition of wilderness and how to distinguish designated wilderness from other forested or rural areas; they will learn what is allowed or not allowed in the wilderness and why.

Materials: Handout.

Reference: *Values Clarification: A Handbook of Practical strategies for Teachers and Students*

• Station 2: Invent-A-Game

Students learn to entertain themselves by inventing games using materials they can find in the natural environment as "toys," as our ancestors did before industrialization. Students will discuss and compare the impacts of the invented games to the impacts of manufactured games.

Reference: *Values Clarification: A Handbook of Practical Strategies for Teachers and Students*

Theme: The Benefits of Nature (Dates: 7/13/98 - 7/17/98)

Field trip to the Hightower Education Forest, Dawsonville, Georgia—an outdoor learning facility were students can participate in natural resource studies in a managed forest environment. The features of the forest include the Talking Tree Trail; log cabin construction projects; hands-on programs on forest growth and management including trees, soil, water and wildlife; Forest Diorama Exhibit; ponds; outdoor classrooms; and state curriculum correlation. The participants from each site of Camp Best Friends will be transported from Atlanta. The interns, FS staff, Georgia Forestry Commission and Camp Best Friends staff will provide learning projects for the students.

Objectives: 1) Students will be able to define various products derived from a forest, including their urban forest; 2) define a connection between a distant forest and their neighborhood; 3) explain why these products are valuable in their daily lives; 4) distinguish renewable from nonrenewable resources; and 5) reflect on how different their lives may be without these products.

Schedule:

	Station 1	Station 2	Station 3	Station 4
Time	What's In A Tree	A Look At Soil	When They're Gone	Fishing
10:00-11:30	Group A	Group B	Group C	Group D
12:00-3:00	Group C	Group D	Group A	Group B

Projects:

• Station 1: What's In A Tree

Students will learn that over 5,000 products that humans depend on and utilize daily are derived from trees. Students will learn that in order to maintain a supply of these products, trees must be replanted. Students will visit a working forest and learn how trees are measured for harvesting. They will hike the "talking tree" trail and learn special facts about various trees.

• Station 2: A Look at Soil

Soil Profile Station will provide the opportunity to see the differences in soil horizons and how the depth of these soil layers affects the productivity of the land and the forest.

• Station 3: When They're Gone, They're Gone

Students will learn the difference in renewable and nonrenewable resources, and learn how these resources are distributed randomly throughout the world. Students will list these resources and demonstrate how to harvest these resources for the countries students are representing and establish the economic trading system for these resources.

• Station 4: Proper Ways to Fish

Students will learn that the forest also provides recreational benefits and food, such as fish. They will learn the proper ways to fish for cold and warm water fish. Students will learn which bait to choose for both species. Students will also visit the acid rain monitoring station and ozone monitoring station and will observe tree clones developed to withstand harmful environmental effects.

Theme: How To Be Responsible With Nature
(Dates: 7/20/98 - 7/24/98)

Demonstrate how the rural forest and urban forest can be managed to maximize usage of their products improve health, reduce the impact of human influence, and sustain a land ethic.

Objectives: 1) Students will be able to state various activities involved with forest management; 2) formulate an understanding of the long term results of various management activities; 3) draw examples of activities that would improve the quality of nature in their community; and 4) express the importance of caring for nature for the future generations.

Schedule:

	Station 1		Station 2	
Time	Sally Snag	Litter We Know (Mind-Mapping)	Earth-Apple of Our Eye	Evaluation
10:00-10:10				
10:15-10:55	Group A	Group B	Group C	Group D
11:00-11:45	Group C	Group D	Group A	Group B
11:50-12:00		(Evaluation)		

Projects:

• Station 1: Sally Snag

Students will learn the importance of dead and live trees to a healthy environment. Through an interactive presentation, students will learn which wildlife depend on dead trees for their habitat needs. Students will learn how to protect snag trees, and landscape using dead trees. Students will plant shrubs that attract wildlife, such as butterfly bushes and wildflowers or plant a tree in the park.

Materials: 2 plastic bags, 3 brown cloth belts to secure plastic bags around costume, 1 Sally Snag costume, 3 camouflage cloth belts to secure rolled up costume for storage, 1 brown apron attached to costume beneath inside tree cavity, 1 Animal Inn sign, 1 Sally Snag script that attaches to inside costume, 1 Animal Inn residents list that attaches to inside costume, 1 Orange apron to hold "critters", 1 wallet with more snag facts, and 1 wallet with "What I can do to help provide animal inns".

Reference: Rachel Schneider (USDA Forest Service; Gainesville, GA)

• Station 2: Litter We Know

Students will learn how litter harms wildlife. Students will take the responsibility of picking up litter in the park, section by section. The litter is then separated into recyclable metals: paper, plastic, glass, etc.

Materials: Large sheets of butcher paper for mounting collages, glue, different types of litter, work gloves, and trash sacks.

Reference: *Project Wild Activity Guide* (Pages 50-51)

• Station 2: Earth—The Apple of Our Eye

The instructor illustrates the portion of earth that is water and land by slicing an apple in representative portions. The land- fractions are sliced representing ice caps, deserts, rocky and paved areas where humans cannot live, plant food, or build landfills. A final slice is then peeled with the peelings representing the topsoil with nutrients to grow food and responsibility to conserve the resources of earth emphasized.

Materials: one large apple; sharp knife.

Reference: Rachel Schneider (USDA, Forest Service; Gainesville GA)

Closing Ceremonies
(Dates: 7/27-7/31)

Schedule:

	Station 1		Station2	
Time	Post-Test		Post-Test	
10:00-10:10	(Mind-Mapping)			
10:15-11:25	Group A	Group B	Group C	Group D
11:30-12:00	(Closing ceremonies/ Certificates)			

Skit, Poem, Song, Rap, Drawing, Scrapbook, etc. presented by students. Interns present certificates. Group picture of Smokey Bear, Woodsy Owl, graduates and interns. Video presentation of Smokey Bear and Woodsy Owl.

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